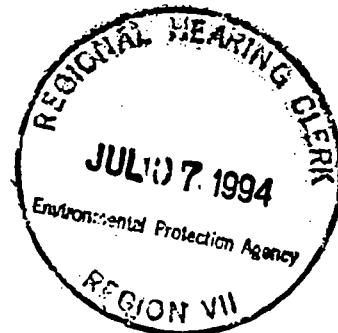


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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION VII  
726 MINNESOTA AVENUE  
KANSAS CITY, KANSAS 66101



IN THE MATTER OF:

BIG RIVER MINE TAILINGS SITE  
Desloge, Missouri

THE DOE RUN RESOURCES CORPORATION

ST. FRANCOIS COUNTY  
ENVIRONMENTAL CORPORATION

RESPONDENTS

Proceeding Under Sections 106, 107,  
and 122 of the Comprehensive  
Environmental, Response, Compensation,  
and Liability Act, as amended,  
42 U.S.C §§ 9606, 9607, and 9622.

EPA Docket No.  
VII-94-F-0015

ADMINISTRATIVE ORDER ON CONSENT

Site:	Big River mine
ID #	MO12981126899
Break:	10.6
Other:	7-7-94

40111149



SUPERFUND RECORDS

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ADMINISTRATIVE ORDER ON CONSENT

I. INTRODUCTION

1. This Administrative Order on Consent ("Consent Order") is entered into by the United States Environmental Protection Agency ("EPA") and Respondents The Doe Run Resources Corporation and St. Francois County Environmental Corporation ("Respondents"). The Consent Order concerns the performance and oversight of removal actions for the Big River Mine Tailings Site ("the Site") located in Desloge, Missouri.

## II. JURISDICTION

2. This Consent Order is issued under the authority vested in the President of the United States by Sections 106, 107, and 122 of the Comprehensive Environmental Response, Compensation, and Liability Act, as amended, 42 U.S.C. §§ 9606, 9607, and 9622 ("CERCLA"). This authority was delegated to the Administrator of EPA on January 23, 1987, by Executive Order 12580, 52 Fed. Reg. 2923 (1987), and further delegated to Regional Administrators on September 13, 1987, by EPA Delegation No. 14-14-C. This authority has been redelegated by the Regional Administrator for Region VII to the Director, Waste Management Division, by EPA Delegation No. R7-14-14-C, dated May 16, 1988.

3. For purposes of entering into this Consent Order, Respondents agree that EPA has jurisdiction to issue this Consent Order and over the activities required by this Consent Order. Respondents agree not to contest or legally challenge said jurisdiction or the issuance of this Consent Order in any action to enforce the terms of this Consent Order. Respondents also agree to undertake all actions required of them by the terms and conditions of this Consent Order. Respondents do not admit and reserve their rights to contest the jurisdiction over activities not required by this Consent Order. This Consent Order is issued without adjudication of any law or fact to facilitate and to satisfy the parties' shared objectives of performing removal actions that are consistent with the National Contingency Plan, 40 C.F.R. Part 300 ("NCP").

4. Notice of the issuance of this Consent Order has been given to the State of Missouri through notice to the Missouri Department of Natural Resources ("MDNR"). EPA is the lead agency for coordinating, overseeing, and enforcing the response action required by this Consent Order.

### III. DEFINITIONS

5. Whenever the following terms are used in this Consent Order and the attachments hereto, the following definitions specified in this Section shall apply:

A. "Appendix" or "Appendices" shall mean those attachments listed below, which are incorporated herein and made an enforceable part of this Consent Order by reference:

Appendix A - Removal Action Statement of Work

Appendix B - Site Description and Site Map

Appendix C - Interim Corrective Action Plan

B. "Removal Action Decision Document" or "RADD" shall mean the removal action decision document issued by EPA for the Site in March 1994.

C. "Consent Order" shall mean this Consent Order, all Appendices to this Consent Order, all documents submitted by Respondents and approved by EPA pursuant to Section X herein, and all EPA approved modifications to such documents.

D. "Hazardous Substances" shall have the same meaning as in Section 101(14) of CERCLA, 42 U.S.C. § 9601(14).

E. "National Contingency Plan" or "NCP" shall mean the National Oil and Hazardous Substances Pollution Contingency Plan

promulgated pursuant to Section 105 of CERCLA, 42 U.S.C. § 9605, codified at 40 C.F.R. Part 300 as amended.

F. "Paragraph" shall mean a portion of this Consent Order identified by an Arabic numeral, a letter of the alphabet or a lower case Roman numeral.

G. "Parties" shall mean the United States Environmental Protection Agency, Region VII, and Respondents The Doe Run Resources Corporation and St. Francois County Environmental Corporation.

H. "Remedial Project Manager" or "RPM" shall mean the person designated by EPA as its representative in connection with Work to be performed under this Order.

I. "RCRA" shall mean the Solid Waste Disposal Act as amended by the Resource Conservation and Recovery Act and the Hazardous and Solid Waste Amendments, 42 U.S.C. § 6901 et seq.

J. "Section" shall mean a portion of this Consent Order identified by a Roman numeral.

K. "Site" shall mean the Big River Mine Tailings Site, encompassing a mine tailings pile covering approximately 600 acres, located approximately 1/2 mile northwest of the City of Desloge in St. Francois County, Missouri, as described and depicted more particularly on the legal property description and map attached as Appendix B of this Consent Order.

L. "Work" shall mean all work and other activities that Respondent is required to perform by and pursuant to the terms and conditions of this Consent Order, including, but not

limited to, the Removal Action Statement of Work (Appendix A), and the following Sections of this Consent Order: Section IX, Work to be Performed; Section XIII, Additional Work; Section XVII, Access; and Section XIX, Retention of Documents and Information.

M. All terms not otherwise defined herein shall have their ordinary legal meanings except that those terms defined in Section 101 of CERCLA, 42 U.S.C. § 9601, shall have the meanings set forth therein.

#### IV. PARTIES BOUND

6. This Consent Order shall apply to and be binding upon EPA and shall be binding upon the Respondents, their agents, successors, and assigns, and upon all persons, contractors, and consultants acting under or for Respondents. The signatories to this Consent Order certify that they are authorized to execute and legally bind the parties they represent to this Consent Order.

7. No change in the ownership or corporate status of the Respondents, or of the Site, shall alter Respondents' responsibilities under this Consent Order. The Respondents shall provide a copy of this Consent Order to any subsequent owners or successors before ownership rights or stock or assets in a corporate acquisition are transferred.

8. Respondents shall provide a copy of this Consent Order to all contractors, subcontractors, laboratories, and consultants which are retained to conduct any work performed under this



Consent Order within fourteen (14) days after the effective date of this Consent Order or the date of retaining their services, whichever is later. Respondents shall condition any such contracts upon satisfactory compliance with this Consent Order.

9. Notwithstanding the terms of any contract, Respondents are responsible for compliance with this Consent Order and for ensuring that their subsidiaries, employees, contractors, consultants, subcontractors, agents and attorneys comply with this Consent Order.

10. Respondents are jointly and severally responsible for carrying out all actions required of them by this Consent Order. Compliance or noncompliance by one Respondent shall not excuse or justify noncompliance by any other Respondent.

#### **V. STATEMENT OF PURPOSE**

11. In entering into this Consent Order, the mutual objectives of EPA and the Respondents are to perform removal actions as described in the Removal Action Decision Document to mitigate conditions at the Site which present a threat to public health, welfare, or the environment.

#### **VI. EPA FINDINGS OF FACT**

12. The Big River Mine Tailings Site is located approximately 1/2 mile northwest of the City of Desloge in St. Francois County, Missouri. The tailings pile at the Site encompasses approximately 600 acres and is bordered on three sides by a horseshoe bend in the Big River.

13. From approximately 1929 to 1958, St. Joe Minerals Corporation conducted lead mining and milling operations in the vicinity of the Site. During this time period, St. Joe owned all of the property where the tailings pile is now located and, consistent with the mining and milling practices of the time, disposed of mining and milling wastes at the Site by pumping mine and mill tailings across the Site via a slurry pipeline. The tailings pile at the Site covers approximately 600 acres and ranges in depth from a few feet to almost 100 feet.

14. St. Joe Minerals Corporation changed its name to The Doe Run Resources Corporation in April 1994.

15. The Doe Run Resources Corporation currently owns approximately 100 acres of the property where the tailings pile is located.

16. Respondent St. Francois County Environmental Corporation ("SFCEC") currently owns 503.8 acres of the property where the tailings pile is located, and in the past operated a MDNR-permitted sanitary landfill on approximately 60 acres of the 503.8 acres it owns. SFCEC is currently performing landfill closure activities and operating a transfer station and recycling center on some of the property it owns.

17. The tailings pile contains elevated levels of lead, cadmium, and zinc, which are hazardous substances as defined by Section 101(14) of CERCLA, 42 U.S.C. § 9601(14).

18. Analyses of ten tailings pile samples collected by an EPA contractor in July 1990 found the following mean and maximum concentrations of metals in the tailings piles (in mg/kg):

	<u>Mean</u>	<u>Maximum</u>
Lead	2,215 J	13,000 J
Cadmium	22	79
Zinc	1,044 J	4,300 J
Nickle	16 J	37 J

Data with the "J" notation are reported values but were not validated by approved quality control procedures. The numerical value is considered an estimated value.

19. Erosion and unpredictable fissuring of the tailings waste pile has resulted in releases of hazardous substances to the Big River. For example, in 1977, approximately 50,000 cubic yards of tailings abruptly fell into the Big River during a heavy rainfall. In the fall of 1993, significant amounts of tailings from the Site again abruptly slumped into the Big River during a heavy rainfall event. Portions of the tailings pile remain in direct contact with the Big River at a number of locations. Due to the unpredictable instability of the tailings pile and the close proximity of the tailings to the Big River, there continues to be releases of hazardous substances to the Big River. In addition, the potential exists for a major slumping event to occur again.

20. In 1980, the Missouri Department of Conservation and the Missouri Division of Health jointly issued an advisory against consumption of carp, redhorse, and other suckers from of the Big River, including the area from the Site downstream to the

Big River's confluence with the Meramec River, due to lead contamination. Lead concentrations in bottom-feeders from the Big River averaged 0.5 ppm. The World Health Organization has set 0.3 ppm as the maximum safe level of lead in food for adults. In 1982, the U.S. Fish and Wildlife Service collected samples from the Big River of edible fish tissues from bottom-feeding fish. The samples of mixed suckers, collected about 0.8 miles downstream from the Site, had a mean concentration of lead of 0.79 ppm. A background tissue sample of mixed suckers collected approximately 17 miles upstream from this Site, among others, contained only 0.07 ppm of lead.

21. The tailings pile is predominately barren of vegetation and is made up of fine particulate matter, resulting in significant observed and potential contaminant migration off-Site via air-borne heavy metal-laden particulates. In January 1988, during a site visit, EPA personnel observed a strong wind creating a suspended particulate plume. High-volume air-sampling conducted during the July 1990 EPA investigation indicated that ambient air on-Site and in the vicinity of the Site contained elevated levels of lead.

22. In 1990, EPA collected and analyzed a number of soil samples from locations to the south of the Site. In a soil sample taken from a residence approximately 100 feet south of the Site, the concentrations of lead, cadmium, and zinc were 650 mg/kg, 270 mg/kg, and 13,000 mg/kg, respectively.

23. Numerous private residences are located either adjacent to or in close proximity to the tailings pile. These residents face actual and/or potential exposure to lead, cadmium, and zinc from the Site via ingestion, skin contact and inhalation.

24. MDNR has designated the entire length of the Big River to support whole body contact recreation. In the vicinity of the Site, the Big River is used extensively for swimming and fishing. Recreational users of the Big River in the vicinity of the Site face exposure to releases of lead, cadmium, and zinc via ingestion of contaminated surface water, skin contact, inhalation, and ingestion of contaminated biota.

25. Exposure to lead can increase the risk of future adverse health effects such as damage to the central nervous system, peripheral nervous system, and kidney and blood disorders in humans.

26. Exposure to cadmium can increase the risks of future health effects such as cancer in animals and humans, and teratogenicity, reproductive toxicity and kidney disorders in humans.

27. Exposure to zinc can increase the risk of acute toxicity in freshwater organisms. Oral ingestion of zinc may cause anemia in humans.

28. Pursuant to Section 105 of CERCLA, 42 U.S.C. § 9605, EPA added the Big River Mine Tailings Site to the National Priorities List on October 14, 1992, 57 Fed. Reg. 47180.

29. The Doe Run Resources Corporation is a New York corporation registered to do business in the State of Missouri.

30. SFCEC is a Missouri corporation organized under the General Not for Profit Law of the State of Missouri.

#### VII. CONCLUSIONS OF LAW

EPA hereby makes the following conclusions of law:

31. Each Respondent is a "person" as defined by and within the meaning of Sections 101(21) and 107(a) of CERCLA, 42 U.S.C. §§ 9601(21) and 9607(a).

32. The Site is a "facility" as defined by Section 101(9) of CERCLA, 42 U.S.C. § 9601(9).

33. The mining and milling wastes and the constituents contained in these wastes, which were disposed of at the Site and are present in soils and waters at the Site, as described in paragraphs 17-22 herein, are "hazardous substances" as defined by Section 101(14) of CERCLA, 42 U.S.C. § 9601(14).

34. The presence of hazardous substances at the Site and the past, present or potential migration of hazardous substances from this Site constitute actual and/or threatened "releases" of hazardous substances as defined by Section 101(22) of CERCLA, 42 U.S.C. § 9601(22).

35. Respondents are responsible parties within the meaning of Sections 104, 107 and 122 of CERCLA, 42 U.S.C. §§ 9604, 9607 and 9622.

### VIII. DETERMINATION

36. EPA has determined that the actions required by this Consent Order are necessary to protect the public health or welfare or the environment, are in the public interest, 42 U.S.C. § 9622(a), will expedite effective remedial action and minimize litigation, 42 U.S.C. § 9622(a), and, if conducted as set forth herein, will be consistent with CERCLA and the NCP.

37. The conditions present at the Site constitute a threat to public health, welfare, or the environment, based upon the factors set forth in Section 300.415(b)(2) of the NCP.

38. The actual or threatened release of hazardous substances from the Site may present an imminent and substantial endangerment to the public health, welfare, or the environment within the meaning of Section 106(a) of CERCLA, 42 U.S.C. § 9606(a).

### ORDER

IT IS HEREBY ORDERED AND AGREED TO BY THE PARTIES AS FOLLOWS:

### IX. WORK TO BE PERFORMED

#### 39. Removal Action.

A. Pre-Design. In accordance with and as described in the Removal Action SOW attached as Appendix A hereto, Respondents shall plan for and implement pre-design data collection investigations and studies. The plans and schedules for the pre-design activities shall be described in a Design Data Collection Memorandum, which shall be submitted to EPA for review and

approval within 30 days of the effective date of this Consent Order.

B. Early Actions. Respondents shall implement early actions to stabilize certain bank areas of the tailings pile, in accordance with the Interim Corrective Action Plan attached to this Consent Order as Appendix C and the schedule contained in the Removal Action SOW.

C. Design Analysis and Removal Action Work Plan. Within 45 days of completion of the design data collection, Respondents shall submit to EPA for review and approval a Design Analysis and Removal Action Work Plan. This submittal shall provide the results of the design data collection effort, and a description of and detailed plans for implementation and completion of all the removal actions outlined and described in the Removal Action Decision Document and Removal Action Statement of Work. This submittal shall also include a schedule for implementation and completion of the removal action.

D. Respondents shall implement the Design Analysis and Removal Action Work Plan as approved by EPA in accordance with the schedule contained therein.

E. Respondents shall notify EPA at least ten (10) days prior to performing any on-Site work pursuant to the approved Design Analysis and Removal Action Work Plan.

F. Respondents shall not commence or undertake any removal actions at the Site, other than the actions to be taken pursuant to Paragraph 39.B. herein, prior to EPA approval of the



Design Analysis and Removal Action Work Plan.

G. Within thirty (30) days after completion of all removal activities required by the approved Design Analysis and Removal Action Work Plan, Respondents shall submit to EPA for review and approval a Removal Action Final Report summarizing the removal actions taken by Respondents and documenting compliance with the requirements of this Consent Order, the Removal Action Statement of Work, and the Design Analysis and Removal Action Work Plan.

H. Respondents shall provide for all post-removal Site control necessary to maintain the long-term effectiveness and protectiveness of the removal action. At the same time that Respondents submit the Removal Action Final Report, Respondents shall submit for EPA review and approval a Post-Removal Site Control Plan. This plan shall describe the activities that Respondents will perform in order to maintain the long-term effectiveness and protectiveness of the removal action. Following EPA approval, Respondents shall implement the Post-Removal Site Control Plan.

40. Health and Safety Plan. Within thirty (30) days after the effective date of this Consent Order, Respondents shall submit for EPA review and comment a plan that ensures the protection of the public health and safety during performance of the Work required by this Consent Order.

**X. EPA REVIEW AND APPROVAL/DISAPPROVAL OF DELIVERABLES**

41. After review of any major deliverable required to be submitted to EPA for review and approval pursuant to this Consent Order, EPA shall, in writing, either: (a) approve the submission; (b) approve the submission with modifications; (c) disapprove the submission and direct Respondents to resubmit the document after incorporating EPA's comments; (d) disapprove the submission and assume responsibility for performing all or any part of the removal activities. As used in this Consent Order, the terms "approval by EPA", "EPA approval", or a similar term means the action described in subparagraphs (a) or (b) of this paragraph.

42. Upon receipt of a notice of disapproval which directs Respondents to resubmit the document after incorporating EPA's comments, Respondents shall, within twenty-one (21) days or such longer time as specified by EPA in said notice of disapproval, either correct the deficiencies and resubmit the deliverable for approval or institute dispute resolution under the terms of this Consent Order.

43. In the event of EPA's disapproval of a resubmittal under subparagraph (c) of Paragraph 41 or EPA's disapproval of a resubmittal and assumption of responsibility under subparagraph (d) of Paragraph 41, Respondents shall be deemed to be in violation of this Consent Order.

44. In the event that Respondents amend or revise a report, plan, or other deliverable upon receipt of EPA comments, if EPA

subsequently disapproves of the revised submittal, EPA retains the right to seek stipulated or statutory penalties, perform its own studies, complete the removal activities (or any portion of the removal activities) under CERCLA and the NCP, and seek reimbursement from the Respondent for its costs and/or seek any other appropriate relief. EPA's exercise of its rights to seek stipulated penalties under this paragraph shall be subject to dispute resolution as specified in Section XXIV herein, Stipulated Penalties, and Section XXIII, Dispute Resolution.

45. Neither failure of EPA to expressly approve or disapprove of Respondents' deliverables within a specified time period(s) nor the absence of comments, shall be construed as approval by EPA. Whether or not EPA gives express approval for Respondents' deliverables, Respondents are responsible for preparing deliverables acceptable to EPA.

#### **XI. OFF-SITE SHIPMENTS**

46. Respondents shall, prior to any off-site shipment of hazardous substances from the site to an out-of-state waste management facility, provide written notification to the appropriate state environmental official in the receiving state and to EPA's Designated Project Coordinator of such shipment of hazardous substances. However, the notification of shipments shall not apply to any such off-site shipments when the total volume of such shipments will not exceed ten (10) cubic yards.

47. The notification shall be in writing and shall include the following information where available: (a) the name and

location of the facility to which the hazardous substances are to be shipped; (b) the type and quantity of the hazardous substances to be shipped; (c) the expected schedule for the shipment of the hazardous substances; and (d) the method of transportation. Respondents shall notify the receiving state of major changes in the shipment plan such as a decision to ship the hazardous substances to another facility within the same state, or to a facility in another state.

## **XII. QUALITY ASSURANCE**

48. Respondents and all laboratories used by them in connection with this Consent Order shall use quality assurance, quality control, and chain of custody procedures described in the "EPA NEIC Policies and Procedures Manual," May 1978, revised November 1984, EPA-330/9-78-001-R, and "Interim Guidelines and Specifications for Preparing Quality Assurance Project Plans", December 1980, QAMS-005/80, and any amendments or revisions thereto, while conducting all sample collection and analysis activities required by this Consent Order. Respondents shall consult with EPA in planning for, and prior to, all sampling and analysis as detailed in the EPA-approved Removal Action Work Plan.

49. Respondents shall assure that work to be performed, samples taken and analyses conducted conform to the requirements of this Consent Order, any EPA approved work plans, sampling and analysis plans, the Quality Assurance Project Plan ("QAPP"), and any guidances identified therein. Respondents will assure that

field personnel used by Respondents are properly trained in the use of field equipment and in chain of custody procedures.

50. In order to provide quality assurance and maintain quality control, the Respondents shall:

A. Assure that EPA personnel and/or authorized representatives are allowed access at reasonable times to the laboratory(ies) and personnel utilized by Respondents for the analyses.

B. Assure that the laboratory used by Respondents for analyses performs according to a method or methods consistent with CLP methods deemed satisfactory to EPA and submits all protocols to be used for analyses to EPA at least ten (10) days before beginning analysis.

C. Assure that all contracts for laboratory analysis provide that EPA representatives are allowed access, for auditing purposes, to all laboratories used in connection with conduct of the removal actions.

### **XIII. ADDITIONAL WORK**

51. If at any time during performance of the Work, Respondents identify a need for additional data, a memorandum documenting the need for additional data shall be submitted to the RPM within twenty (20) days of identification of such need. EPA in its discretion will determine whether the additional data will be collected by Respondents and whether it will be incorporated into reports and deliverables.

52. EPA may determine that in addition to tasks defined in the initially approved Removal Action Work Plan, other additional work may be necessary to complete the removal action described in the Removal Action Decision Document and Statement of Work for the Removal Action. EPA may request in writing that the Respondents perform response actions in addition to those required by the initially approved Removal Action Work Plan, including any approved modifications, if it determines that such actions are necessary and consistent with the terms of this Consent Order. Respondents shall confirm their willingness to perform the additional work in writing to EPA within seven (7) days of receipt of the EPA request or Respondents shall invoke dispute resolution. Subject to EPA resolution of any dispute, Respondents shall implement the additional tasks which EPA determines are necessary. The additional work shall be completed according to the standards, specifications, and schedule set forth or approved by EPA in a written modification to the Removal Action Work Plan or in a written work plan supplement. EPA reserves the right to conduct the work itself at any point, to seek reimbursement from Respondents, and/or to seek any other appropriate relief.

53. If any incident or change in conditions at the Site during the actions conducted pursuant to this Consent Order causes or threatens to cause an additional release of hazardous substances from the Site or an endangerment to the public health, welfare, or the environment, Respondents shall immediately take

appropriate action in order to prevent, abate, or minimize such release or endangerment caused or threatened by the release.

Respondents shall take these actions in accordance with all applicable provisions of this Consent Order, including the Health and Safety Plan. Respondents shall also immediately notify the RPM of the incident or Site conditions. If Respondents fail to respond, EPA may respond to the release or endangerment and reserves the right to pursue cost recovery.

#### **XIV. COMPLIANCE WITH APPLICABLE LAWS**

54. Respondents shall comply with the requirements of all applicable local, state, and federal laws and regulations for all actions required to be taken by Respondents pursuant to this Consent Order, unless an exemption from any such requirement is provided in this Consent Order, the NCP, or CERCLA. Respondents shall comply with all applicable OSHA requirements.

#### **XV. MONTHLY PROGRESS REPORTS**

55. In addition to the deliverables set forth in this Consent Order, Respondents shall provide to EPA monthly progress reports by the 10th day of each month, beginning the month following the month this Consent Order becomes effective and continuing until EPA approval of the Final Removal Action Report. For the preceding month, each section shall (1) describe the actions which have been taken to comply with this Consent Order during that month; (2) include all results of sampling and tests and all other data received by the Respondents; (3) describe work planned for the next two months with schedules relating such work

to the overall project schedule; and (4) describe all problems encountered and any anticipated problems, any actual or anticipated delays, and solutions developed and implemented to address any actual or anticipated problems or delays.

**XVI. DESIGNATION OF REMEDIAL PROJECT  
MANAGER AND PROJECT COORDINATOR**

56. All verbal notices and written documents, including, but not limited to, written notices, reports, plans and schedules requested or required to be submitted to EPA or Respondents, shall be directed to the following addressees (or to any other addressees which the Respondents and EPA may designate in writing):

For EPA:

Jack Generaux  
Remedial Project Manager  
Waste Management Division  
U.S. EPA, Region VII  
Kansas City, KS 66101  
Telephone: (913) 551-7528  
Facsimile: (913) 551-7063

For Respondents:

John Carter  
Environmental Manager  
The Doe Run Resources Corp.  
P.O. Box 500  
Viburnum, MO 65566  
Telephone: (314) 244-8152

57. Respondents designate John Carter as their Project Coordinator. EPA designates Jack Generaux as RPM for this Consent Order. The RPM shall be responsible for overseeing the implementation of this Consent Order. To the maximum extent possible, communications between the Respondents and EPA shall be



directed to the RPM and Project Coordinator by mail with copies to such other persons as EPA and Respondents may respectively designate. Communications include, but are not limited to, all documents, reports, approvals and other correspondence submitted under this Consent Order.

58. EPA and the Respondents each have the right to change the respective RPM and Project Coordinator. The other party(ies) must be notified in writing at least ten (10) days prior to the change.

59. The RPM shall have the authority lawfully vested in a Remedial Project Manager (RPM) and On-Scene Coordinator (OSC) by the NCP. In addition, the RPM shall have the authority consistent with the NCP to halt any work required by this Consent Order and to take any necessary response action when the RPM determines that conditions at the site may present an immediate endangerment to public health or welfare or the environment.

60. EPA shall arrange for a qualified person to assist in its oversight and review of the work required by this Consent Order. EPA agrees to notify Respondents of the name, address, telephone number and affiliation of the oversight assistant. The oversight assistant may observe work and make inquiries in the absence of EPA but is not authorized to modify any work plans. The EPA oversight assistant may direct questions and/or concerns regarding the response actions, potential endangerment of public health or welfare or the environment, or potential releases as a result of the response actions by telephone to the RPM. If in

the opinion of the RPM, the concerns expressed by the EPA oversight assistant warrants cessation of the removal actions, those activities shall be suspended for a period not to exceed thirty-six (36) hours, during which time the RPM may travel to the Site to observe the conditions and determine if alternative actions are necessary.

61. If the RPM determines that alternative actions are necessary and require a modification to a work plan, the RPM will follow the procedures specified in Section XIII (Additional Work) of this Consent Order. If Respondents decline to perform any additional work that EPA determines is necessary, and EPA performs the response activities, EPA reserves its right to seek recovery of costs incurred by the government in performing such action or actions. The absence of the RPM, the EPA oversight assistant or other EPA representative from the Site shall not be cause for the stoppage or delay of work. The RPM shall notify the Respondents' Project Coordinator by telephone when activities may again commence.

62. If the RPM suspends the Work at the Site, affected deadlines under this Consent Order shall be extended for a period of time as necessary, and at least equal to the time of the suspension of the activities, plus reasonable time for the resumption of activities. If the suspension results from Respondents' delay(s) or noncompliance with this Consent Order, then any extension of the affected deadline shall be at EPA's discretion. In exercising its discretion, EPA shall take into

account the degree to which Respondents' delay(s) or noncompliance caused the suspension.

#### **XVII. ACCESS**

63. EPA reserves the right to exercise its authority pursuant to Section 104(e) of CERCLA, 42 U.S.C. § 9604(e), or other appropriate federal or state law to obtain access to the Site.

64. All results of sampling, tests, or other data (including raw data) generated by Respondents or on Respondents' behalf during implementation of this Consent Order shall be submitted to EPA in the subsequent monthly progress report as described in Section XV of this Consent Order. EPA will make available to the Respondents validated data generated by EPA unless it is exempt from disclosure by any federal or state law or regulation.

65. Respondents will verbally notify EPA at least fifteen (15) days prior to conducting significant field events as described in the SOW and the EPA approved Removal Action Work Plan and Sampling and Analysis Plan. At EPA's verbal or written request, or the request of EPA's oversight assistant, Respondents shall allow split or duplicate samples to be taken by EPA (and its authorized representatives) of any samples collected by the Respondents in conducting the work required by this Consent Order.

66. At all reasonable times, EPA and its authorized representatives shall have the authority to enter and freely move

about all property to which Respondents have access at the Site and off-Site areas where Work, if any, is being performed for the purposes of inspecting conditions, activities, the results of activities, records, operating logs, and contracts related to the Respondents' contractor(s) or subcontractor(s) pursuant to this Consent Order; reviewing the progress of the Respondents in conducting the Work required by the terms of this Consent Order; conducting tests as EPA or its authorized representatives deem necessary; using a camera, sound recording device or other documentary type equipment; and verifying the data submitted to EPA by the Respondents pursuant to this Consent Order. The Respondents shall allow these persons to inspect and copy all records, files, photographs, documents, sampling and monitoring data and other writings related to work undertaken in carrying out this Consent Order. Nothing herein shall be interpreted as limiting or affecting EPA's statutory right of entry or inspection authority under federal law.

67. In entering into this Consent Order, Respondents waive any objections as to the admissibility of any data gathered or generated by EPA, MDNR, or Respondents in the performance or oversight of the Work that has been verified according to the quality assurance/quality control (QA/QC) procedures required by the Consent Order or any EPA approved work plans or sampling and analysis plans. If Respondents object to any other data relating to the Consent Order, Respondents shall submit to EPA a report that identifies and explains their objections, describes the

acceptable uses of the data, if any, and identifies any limitations to the use of the data.

68. If the Site, or any off-Site areas used for access, are owned in whole or in part, or have rights of entry and access controlled by persons or entities other than those bound by this Consent Order, Respondents will use their best efforts to obtain Site access agreements from the present owner(s) or holder of access rights within thirty (30) days of the effective date of this Consent Order. Such agreements shall provide access for EPA, its contractors and oversight officials, and the Respondents or their authorized representatives. Such agreements shall specify that Respondents are not EPA's representative with respect to liability associated with Site activities. Copies of such agreements shall be provided to EPA prior to Respondents' initiation of field activities. Respondents' best efforts shall include, as necessary, payment for rental of property at the fair market value to any Site or off-Site property owner; except that no payment will be necessary if the Site or off-Site property owner has been determined to be a potentially responsible party and has been notified by EPA. For purposes of the preceding sentence, any determination of what constitutes fair market value shall include consideration of local real estate markets and practices.

69. If access agreements are not obtained within the time referenced in the preceding paragraph, Respondent shall promptly notify EPA of its failure to obtain access, the reasons for the

lack of access, and the nature of Respondents' attempts to obtain such agreements. If Respondents lose access after it is initially obtained, Respondents shall notify the RPM as soon as possible and in no event later than fifteen (15) calendar days after Respondents knew or should have known of the loss of access.

70. In the event that Respondents cannot obtain access agreements, EPA may obtain access for the Respondents, perform those tasks or activities with EPA contractors, or terminate the Consent Order. In the event that EPA performs those tasks or activities with EPA contractors and does not terminate the Consent Order, Respondent shall perform all other activities not requiring access to that portion of the Site, and shall reimburse EPA for all costs incurred in performing such activities. Respondents shall integrate the results of any such tasks undertaken by EPA into its deliverables.

71. Delay(s) in Respondents' performance of requirements under this Consent Order arising from Respondents' inability to obtain Site access to a property pursuant to the procedures set forth in this Section XVII, Access, shall constitute a Force Majeure Event, as set forth in Section XXV herein (Force Majeure). Such Force Majeure event shall be only as to activities and requirements contemplated for that particular property where access is necessary for the Work and Respondents were unable to obtain access.

### **XVIII. CONFIDENTIALITY CLAIMS**

72. The Respondents may assert a claim of business confidentiality covering part or all of the information submitted to EPA pursuant to the terms of this Consent Order under 40 C.F.R. Part 2.203, provided such claim is allowed by Section 104(e)(7) of CERCLA, 42 U.S.C. § 9604(e)(7). This claim shall be asserted in the manner described by 40 C.F.R. Part 2.203(b) and substantiated at the time the claim is made. Information determined to be confidential by EPA will be given the protection specified in 40 C.F.R. Part 2. If no such claim accompanies the information when it is submitted to EPA, it may be made available to the public by EPA, or the state, without further notice to the Respondents. Respondents shall not assert confidentiality claims with respect to any environmental data related to the Site.

### **XIX. RETENTION OF DOCUMENTS AND INFORMATION AVAILABILITY**

73. All records and documents in EPA's and Respondents' possession that relate in any way to the hazardous substances, pollutants, or contaminants generated, treated, stored, or disposed of at the Site, or to the release or threatened release of hazardous substances, pollutants, or contaminants from the Site, or to the Respondents' performance of the Work required under the terms of this Consent Order shall be preserved during the conduct of this Consent Order and for a minimum of ten (10) years after issuance of the EPA Record of Decision for this Site. The Respondents shall, without regard to any document retention policy to the contrary, acquire and retain copies of all

documents that relate to the hazardous substances, pollutants, or contaminants generated, treated, stored, or disposed of at the Site, or to the release or threatened release of hazardous substances, pollutants, or contaminants from the Site, or to the Respondents' performance of the Work required under the terms of this Consent Order and that are in the possession, custody, or control of Respondents or their employees, agents, accountants, contractors, or attorneys. After this ten (10) year period, the Respondent shall notify EPA at least ninety (90) days before the documents are scheduled to be destroyed. If EPA requests that the documents be saved, the Respondents shall, at no cost to EPA, give EPA the documents or copies of such documents that are not subject to privilege.

74. Respondents and EPA agree to make available to each other, upon reasonable prior request, all sampling, tests, and other analytical data generated by either party pursuant to or in oversight of this Consent Order.

#### **XX. RESERVATIONS OF RIGHTS**

75. EPA reserves the right to bring any enforcement action pursuant to CERCLA and/or any other available legal authority, including, but not limited to, the right to: (1) require further response actions pursuant to Section 106 of CERCLA, 42 U.S.C. § 9606; (2) bring an action against Respondents or any other responsible person pursuant to Section 107 of CERCLA, 42 U.S.C. § 9607, for recovery of all unreimbursed past response costs, any oversight costs incurred by the United States in connection with



the Site and not reimbursed by Respondents, and any future costs incurred by the United States in connection with response activities conducted under CERCLA at this Site; (3) seek injunctive relief, monetary penalties and/or punitive damages for any violation of law or this Consent Order. Nothing in this Consent Order shall be construed to limit EPA's removal authority or EPA's response or enforcement authorities.

76. Notwithstanding compliance with the terms of this Consent Order, Respondents are not released from liability for any actions beyond the terms of this Consent Order taken by EPA with respect to the Site. EPA reserves its right to perform its own studies, and/or conduct the removal action (or any portion thereof) for this Site pursuant to CERCLA and the NCP.

77. EPA reserves the right to bring an action against Respondents to collect stipulated penalties assessed pursuant to Section XXIV, Stipulated Penalties, of this Consent Order; and to seek penalties pursuant to Section 109 of CERCLA, 42 U.S.C. § 9609.

78. Respondents do not admit or deny the Findings of Fact and Conclusion of Law set forth by the EPA herein. Respondents specifically reserve the right to raise objections to EPA's prior and future data and conclusions with respect to the Site, except as provided by paragraph 67 herein regarding objections to data. Neither this Consent Order, nor any part thereof, nor the entry into or performance under this Consent Order, shall constitute or be construed as a finding, admission, or acknowledgement by

Respondents of the Findings of Fact or Conclusions of Law contained in this Consent Order.

79. With respect to claims for contribution against the Respondent for matters addressed in this Consent Order, the parties hereto agree that the Respondents are entitled, as of the effective date of this Consent Order, to such protection from contribution actions or claims as is provided in Section 113(f)(2) of CERCLA, 42 U.S.C. § 9613(f)(2). Respondents agree that with respect to any suit or claim for contribution brought against them for matters covered by this Consent Order, they will timely notify EPA of the institution of the suit or claim. EPA shall be under no obligation to assist Respondents in defending against any such suits for contribution.

#### **XXI. DISCLAIMER**

80. The participation of the Respondents in this Consent Order shall not be considered an admission of the findings of fact or conclusions of law contained in this Consent Order, or of liability, and is not admissible in evidence against the Respondents in any judicial or administrative proceeding other than a proceeding by the United States, including EPA, to enforce this Consent Order or a judgment relating to it. Respondents retain their rights to assert claims against other potentially responsible parties at the Site. However, the Respondents agree not to contest the validity or terms of this Consent Order, or the procedures underlying or relating to it, in any action

brought by the United States, including EPA, to enforce its terms.

#### XXII. OTHER CLAIMS

81. In entering into this Consent Order, Respondents waive any right to seek reimbursement under Section 106(b) of CERCLA, 42 U.S.C. § 9606(b), for work performed pursuant to this Consent Order. Respondents also waive any right to present a claim under Sections 111 or 112 of CERCLA, 42 U.S.C. §§ 9611 or 9612.

Respondents further waive all other statutory and common law claims against EPA including, but not limited to, contribution and counterclaims relating to or arising out of conduct of the removal action for this Site.

82. Nothing in this Consent Order shall constitute or be construed as a waiver of or release from any claim, cause of action, or demand in law or equity of EPA or Respondents, individually or collectively, against any person, firm, partnership, subsidiary or corporation not a signatory to this Consent Order for any liability it may have arising out of or relating in any way to the generation, storage, treatment, handling, transportation, release or disposal of any hazardous substances, pollutants, or contaminants found at, taken to, or taken from the Site.

83. This Consent Order does not constitute any decision on preauthorization of funds under Section 111(a)(2) of CERCLA, 42 U.S.C. § 9611(a)(2).

84. Respondent shall bear their own costs and attorneys fees regarding all activities related to the Site.

**XXIII. RESOLUTION OF DISPUTES**

85. Any disputes concerning activities or deliverables required under this Consent Order for which dispute resolution has been expressly provided shall be resolved as follows:

A. EPA and the Respondents shall attempt to resolve expeditiously and informally any disagreements concerning the meaning, implementation, or application of this Consent Order or the performance of the Work required hereunder.

B. Respondents shall notify the RPM in writing of any good faith disagreements or objections with respect to the meaning, implementation or application of this Consent Order within ten (10) days of the date of actual knowledge of the action or event which gives rise to such disagreement or objection. Said notice shall set forth the specific points of the dispute, the position Respondents maintain should be adopted, the factual and legal basis for Respondents' position, and any matters necessary for EPA's determination.

C. The Respondents and EPA shall then have fourteen (14) working days from the receipt of the RPM of the notice of objection to attempt to reach agreement. Any Party may also request that the Parties confer to resolve the dispute through an informal conference to be held within this fourteen (14) day period. If agreement is reached, the resolution shall be reduced to writing, signed by the qualified representatives of the

Respondents and a representative of EPA, and incorporated into this Consent Order.

D. If agreement cannot be achieved within the allowed fourteen (14) working days, the matter shall be referred to the Waste Management Division Director, EPA Region VII, who shall provide to the Respondents a written response setting forth EPA's position on the matter. EPA's written response shall constitute the resolution of the dispute. Such resolution shall be the final determination of any dispute arising under this Consent Order, including any dispute concerning the sufficiency of the Work. Respondents shall proceed in accordance with EPA's final decision regarding the matter in dispute, regardless of whether Respondents agree with the decision. If the Respondents do not proceed within ten (10) calendar days after receipt of EPA's written decision, EPA may undertake any other appropriate action in accordance with CERCLA and any other applicable federal laws.

86. Except as provided in paragraph 87 below, the invocation or implementation of the procedures stated in this Section XXIII (Resolution of Disputes) shall not stay the accrual of stipulated penalties, extend or postpone any deadline, or affect in any way Respondents' obligations (including the obligation to pay stipulated penalties) under this Consent Order with respect to the disputed issue unless otherwise agreed to by EPA in writing; provided that if Respondents prevail, the scheduled due date for any deliverable that is the subject matter of the dispute resolution process shall be extended by a length

of time at least equal to the length of the dispute resolution plus a reasonable time for the resumption of activities, and payment of accrued stipulated penalties shall not be required. If Respondents do not prevail, the Waste Management Division Director shall include in his decision of the dispute a determination of whether and in what amounts Respondents shall be liable for stipulated penalties which accrued during the dispute resolution process.

87. No stipulated penalties shall accrue during invocation or implementation of the procedures set forth in this Section XXIII (Dispute Resolution) with respect to disputes involving the need for or extent of additional work pursuant to paragraph 52 of this Consent Order.

#### **XXIV. STIPULATED PENALTIES**

88. Except as provided in Section XXV (Force Majeure) and Section XXIII (Dispute Resolution) of this Consent Order, for each day that the Respondents fail to produce a deliverable in accordance with the deliverable due date pursuant to this Consent Order, and that satisfies the requirements of this Consent Order, or otherwise are in violation of or fail to perform in accordance with the requirements of this Order, Respondents shall be liable for stipulated penalties, as set forth below. Penalties begin to accrue on the day that performance is due or a violation (or noncompliance or failure or refusal to perform) of this Consent Order occurs, and extend through the period of noncompliance. Where a revised submission by Respondents is required, stipulated

penalties shall continue to accrue until a satisfactory deliverable is produced. EPA will provide written notice that stipulated penalties are accruing for violations that are not based on timeliness; nevertheless, penalties shall accrue from the day Respondents' Project Coordinator receives notice of such violation. Payment shall be due within thirty (30) days from the date of a demand letter by EPA.

89. Respondents may dispute whether penalties are due by invoking the dispute resolution procedures under the terms of Section XXIII of this Consent Order, Dispute Resolution.

Stipulated penalties continue to accrue during dispute resolution, except as provided in paragraph 87 of this Consent Order. If Respondents do not prevail upon resolution, the Waste Management Division Director shall include in his decision of the dispute a determination as to whether and in what amounts Respondent shall be liable for stipulated penalties which accrued during or on account of the dispute resolution process. If Respondents prevail, payment of accrued stipulated penalties shall not be required.

90. Respondents shall pay interest on the unpaid balance of penalties due, which shall begin to accrue at the end of the 45-day period, at the rate established by the Department of Treasury pursuant to 30 U.S.C. § 3717. Respondents shall further pay a handling charge of 1 percent (1%) to be assessed at the end of each thirty-one (31) day period and a 6 percent per

annum penalty charge to be assessed if the penalty is not paid in full within ninety (90) days after it is due.

91. Respondents shall make all payments by forwarding a certified or cashier's check to:

U.S. Environmental Protection Agency  
Superfund Accounting  
Region VII  
P.O. Box 360748M  
Pittsburgh, Pennsylvania 15251

Checks must identify the name of the Site, the location of the Site, the Site identification number (CR), and the title and EPA Docket Number of this Consent Order. A copy of the check and transmittal letter shall be forwarded to the RPM.

92. For the following major deliverables, stipulated penalties shall accrue in the amount of \$250 per day, per violation, for the first seven (7) days of noncompliance; \$500 per day, per violation, for the 8th through 14th day of noncompliance; \$750 per day, per violation, for the 15th day through the 30th day; and \$1000 per day, per violation, for all violations beyond thirty (30) days.

- 1) An original and any revised Design Data Collection Memorandum.
- 2) An original and any revised Design Analysis and Removal Action Work Plan.
- 3) An original and any revised Removal Action Final Report.

93. If Respondents submit a specified deliverable within two (2) days of the deliverable due date, no stipulated penalty



shall be assessed simply because of a violation based on timeliness. However, if Respondents fail to submit the specified deliverable within two (2) days of the due date, stipulated penalties shall begin accruing from the first day after the deliverable due date.

94. The stipulated penalties provisions do not preclude EPA from pursuing any other remedies or sanctions which are available to EPA because of the Respondents' failure to comply with this Consent Order including, but not limited to, conduct of all or part of the removal actions by EPA. EPA will not attempt to recover more than \$25,000 per day for stipulated penalties and statutory monetary penalties under CERCLA for the same violation. Payment of stipulated penalties does not alter Respondents' obligation to complete performance under this Consent Order.

#### **XXV. FORCE MAJEURE**

95. Respondents shall perform the requirements under this Consent Order within the time limits set forth or approved or established herein, unless the performance is prevented or delayed by events that constitute a Force Majeure. "Force Majeure", for purposes of this Consent Order, is defined as any event arising from causes beyond the control of the Respondents and of any entity controlled by Respondents, including their contractors and subcontractors, that delays the timely performance of any obligation under this Consent Order, and which cannot be overcome with due diligence on the part of the Respondents. Examples of events that are Force Majeure events

include, but are not limited to, acts of God, fires, floods, earthquakes, tornadoes, explosions, civil disorder or unrest, or inability to gain access to the Site as specified in Section XVII (Access). Examples of events that are not force majeure events include, but are not limited to, increased costs or expenses of any work to be performed under this Consent Order, changed labor relations, failure of Respondents to make timely and complete application for any required approval or permit, inability of Respondents' contractors to complete the work, or financial difficulty of Respondents performing such work.

96. If any event occurs or has occurred that may delay the performance of any obligation under this Consent Order, whether or not caused by a Force Majeure event, Respondents shall notify by telephone the RPM or, in his or her absence, the Director of the Hazardous Waste Management Division, EPA Region VII, within forty-eight (48) hours of when the Respondents knew or reasonably should have known that the event might cause a delay. Within five (5) business days thereafter, Respondents shall provide in writing the reasons for the delay; the anticipated duration of the delay; all actions taken or to be taken to prevent or minimize the delay; a schedule for implementation of any measures to be taken to mitigate the effect of the delay; and a statement as to whether, in the opinion of Respondents, such event may cause or contribute to an endangerment to public health, welfare or the environment. Respondents shall exercise best efforts to anticipate, avoid or

minimize any delay and any effects of a delay to the greatest extent practicable. Failure to comply with the above requirements shall preclude Respondents from asserting any claim of Force Majeure.

97. If EPA agrees that the delay or anticipated delay is attributable to Force Majeure, the time for performance of the obligations under this Consent Order that are directly affected by the Force Majeure event shall be extended by agreement of the parties pursuant to Section XXVII of this Consent Order (Effective Date and Subsequent Modification), for a period of time equal to the actual duration of the delay caused by the Force Majeure event, plus a reasonable time for resumption of activities. An extension of the time for performance of the obligation directly affected by the Force Majeure event shall not, of itself, extend the time for performance of any subsequent obligation(s).

98. If EPA does not agree that the delay or anticipated delay has been or will be caused by a Force Majeure event, or does not agree with Respondents on the length of the extension, the issue shall be subject to the dispute resolution procedures set forth in Section XXIII of this Consent Order. In any such proceeding, Respondents shall have the burden of demonstrating by a preponderance of the evidence that the delay or anticipated delay has been or will be caused by a Force Majeure event; that the duration of the delay was or will be warranted under the circumstances; that Respondents did exercise, or are exercising,

due diligence in their efforts to avoid and mitigate the effects of the delay; and that Respondents complied with the requirements of Paragraph 96 herein.

99. In the event dispute resolution procedures are invoked and Respondents carry the burden set forth in Paragraph 95 herein, or whenever EPA determines in writing that a delay is attributable to a Force Majeure event, the delay at issue shall be deemed not to be a violation of the affected obligation of this Consent Order.

**XXVI. INSURANCE AND INDEMNIFICATION**

100. Prior to commencement of Work under this Order, Respondents shall secure and shall maintain in force, for the duration of this Consent Order, Comprehensive General Liability (CGL) insurance with limits of \$1 million dollars per occurrence, and automobile insurance with a limit of \$750,000, combined single limit.

101. For the duration of this Consent Order, Respondents shall satisfy, or shall ensure that their contractors or subcontractors satisfy, all applicable laws and regulations regarding the provision of employer's liability insurance and workmen's compensation insurance for all persons performing work on behalf of the Respondents in furtherance of this Order.

102. If Respondents demonstrate by evidence satisfactory to EPA that any contractor or subcontractor maintains insurance equivalent to that described above, or insurance covering the same risks but in a lesser amount, then with respect to that

contractor or subcontractor, Respondents need provide only that portion of the insurance described above which is not maintained by the contractor or subcontractor.

103. Prior to commencement of any work under this Consent Order and annually thereafter on the anniversary of the effective date of this Consent Order, Respondents shall provide to EPA certificates of such insurance and a copy of each insurance policy.

104. Within fifteen (15) days of retention of a contractor, Respondents shall certify to EPA that the required insurance has been obtained by that contractor.

105. The Respondents agree to indemnify and hold the United States Government, its agencies, departments, agents, and employees harmless from any and all claims or causes of action arising from or on account of acts or omissions of Respondents, their employees, agents, successors, or assignees, or any persons including, but not limited to, firms, corporations, subsidiaries and contractors in carrying out activities under this Consent Order. The United States Government or any agency or authorized representative thereof shall not be held as a party to any contract entered into by Respondents, their employees, or contractors in carrying out activities pursuant to this Consent Order.

**XXVII. EFFECTIVE DATE AND SUBSEQUENT MODIFICATION**

106. This Consent Order is effective upon receipt by certified mail, return receipt requested, of a fully executed

copy of this Consent Order by the Respondents' Project Coordinator. All times for performance of actions pursuant to this Consent Order shall be calculated from that date.

107. This Consent Order may be amended by mutual agreement of EPA and Respondents. Such amendment shall be in writing and fully executed. Amendments shall be effective upon receipt by the Respondents' Project Coordinator of a fully executed copy of the amendment(s).

108. No informal advice, guidance, suggestions, or comments by EPA regarding reports, plans, specifications, schedules and any other writing submitted by Respondents will be construed as relieving the Respondents of their obligation to obtain such formal approval as may be required by this Consent Order.

109. Any deliverables, plans, technical memoranda, reports (other than progress reports) specifications, schedules and attachments required by this Consent Order, which are to be approved by EPA, are incorporated into this Consent Order subsequent to such EPA approval. Any non-compliance with such EPA approved reports, plans, specifications, schedules, and attachments shall be considered a failure to achieve the requirements of this Consent Order and may subject the Respondents to penalties pursuant to the terms of this Consent Order.

#### **XXVIII. TERMINATION AND SATISFACTION**

110. This Consent Order shall terminate when the Respondents demonstrate in writing and certify to the satisfaction of EPA that all activities required under this Consent Order, including any additional work and payment of any stipulated penalties demanded by EPA and due pursuant to this Consent Order, have been performed and EPA has approved the certification. Respondents' rights and obligations pursuant to Paragraph 39.H. (Post-Removal Site Control); Section XIX (Retention of Documents and Information Availability); Section XX (Reservation of Rights); and Section XXII (Other Claims) shall not terminate with such notice.

111. The certification shall be signed by a responsible official representing Respondent. The representative shall make the following attestation: "I certify that the information contained in or accompanying this certification is true, accurate and complete."

#### **XXIX. SEVERABILITY**

112. If any provision or authority of this Consent Order or the application of this Consent Order to any party or circumstance is held by any judicial authority to be invalid, the application of such provisions to other parties or circumstances and the remainder of the Consent Order shall not be affected thereby.

IT IS SO ORDERED.

July 7, 1994  
Date

Michael J. Sanderson  
Michael J. Sanderson  
Acting Director  
Waste Management Division  
United States Environmental  
Protection Agency, Region VII

For the United States Environmental Protection Agency,  
Region VII:

July 7, 1994  
Date

David Cozad  
David Cozad  
Associate Regional Counsel

Big River Mine Tailings AOC  
Docket No. VII-94-F-0015



THE UNDERSIGNED PARTY enters into this Administrative Order on Consent, Docket No. VII-94-F-0015, relating to the Big River Mine Tailings Superfund Site in Desloge, Missouri.

For The Doe Run Resources Corporation:

June 27, 1984  
Date

Walter Nowotny  
Walter Nowotny  
Vice-President, Law

Big River Mine Tailings AOC  
Docket No. VII-94-F-0015

THE UNDERSIGNED PARTY enters into this Administrative Order on Consent, Docket No. VII-94-F-0015, relating to the Big River Mine Tailings Superfund Site in Desloge, Missouri.

For St. Francois County Environmental Corporation:

July 1, 1994  
Date

Larry E. Hughes  
Larry Hughes  
President  
Board of Directors

Big River Mine Tailings AOC  
Docket No. VII-94-F-0015

APPENDIX A  
STATEMENT OF WORK FOR THE  
BIG RIVER MINE TAILINGS SITE  
REMOVAL ACTION

- I. The purpose of this Removal Action Statement of Work (SOW) is to describe the requirements for design and implementation of the removal action at the Big River Mine Tailings Site (Site), as set forth in the Removal Action Decision Document (RADD) signed by the Regional Administrator of EPA Region VII in March 1994. This SOW is an appendix to and is incorporated as part of the Administrative Order on Consent entered into by Respondents and EPA, Docket No. VII-94-F-0015 (Consent Order).
- II. The Respondents shall conduct a removal action at the Big River Mine Tailings Site (Site) to provide for the stabilization of erosion of source materials which have been identified at the Site and which present a threat to human health and the environment. Source materials include lead and other metals which are a part of the in-situ material deposited at the site during the mining and processing of lead ores. All activities conducted by Respondent in implementing the removal action shall be performed in accordance with the RADD, the Consent Order, and this SOW.
- III. **EARLY ACTIONS.** Because there is potential for significant releases during large rainfall events or during high flows of the Big River which may erode the toe of the pile, the Respondents shall take early actions to stabilize limited areas of the banks. The purpose of the early actions is to minimize potential for further releases while plans and designs are developed for the entire removal action. The early actions shall be conducted in accordance with the plan entitled "Interim Corrective Measures for Areas 1 and 2", which is attached to this Consent Order as Appendix C.
- IV. **DESIGN DATA COLLECTION.** The Respondents shall plan for and complete engineering studies and field investigations necessary to implement the actions described in the RADD. In order to have a complete design available for inclusion in the Design Analysis and Removal Action Work Plan discussed in Section V. herein, the Respondents shall collect necessary design data. The data to be collected and the data collection procedures shall be described in a Design Data Collection Memorandum to be submitted to EPA for review and approval prior to initiation of field investigations. The engineering studies and field investigations shall include at a minimum the following items:

1. A topographic survey of the Site to ascertain current slope and Site conditions and changes at the Site since St. Joe's aerial topographic survey was made in 1992. Topographic surveys shall be carried out for the river bank areas.
2. Soil and geotechnical field and laboratory investigations to aid in design of erosional and geotechnically stable Site grading and erosion control systems, including but not limited to down drains, surface water channels, slope geometry, and vegetative and/or geo-fabric covers. The geotechnical investigation shall also be used to gather the information needed to prepare an estimated 3-dimensional description of the tailings pile composition. The 3-dimensional description shall be based on historical information on pile placement, borings analysis to confirm interpretation of historical placement, water level information from existing wells, and materials properties.

The Design Data Collection Memorandum shall describe the locations, sampling interval, and total depth for each boring to be made, well locations, and previous water level readings for water-level measurements. For wells to be measured, a log of the existing well shall be included which shows at least depth and screen intervals. Laboratory data on each geotechnical sample shall include: moisture content, dry unit weight, grain size distribution, liquid and plastic limits, standard penetrometer blow counts, and other information deemed necessary to evaluate and design for the erosional and static/dynamic stability.

3. Any other design data collection efforts deemed necessary by Respondents.

#### **DESIGN ANALYSIS AND REMOVAL ACTION WORK PLAN (WP).**

Respondents shall prepare and submit for EPA review and approval a Design Analysis and Removal Action Work Plan which presents the results of the design data collection effort, presents the detailed design plans for the removal action, and describes the proposed tasks and schedules associated with implementation of the action. The WP must provide the following:

clear and concise description of roles, relationships and assignment of responsibilities among the Respondent, Project Coordinator, Quality Assurance Officer, Construction Supervisor and Construction personnel;

DESIGN -- The Respondents shall include drawings and design information necessary to implement the removal action, including:

1. Hydrologic design parameters, including rainfall intensity and duration, and estimated 100-year frequency of flow and stage for the Big River. All surface drainage and sediment control structures shall have adequate design capacity to handle design events as described in Surface Mining and Reclamation Act regulations for permanent structures set forth at 30 CFR 816.45 through 816.55.
2. The design shall include field data collected, supporting calculations, designs, drawings and specifications which demonstrate that the construction will achieve long-term stability. Among the design aspects to be addressed are the following:
  - a. specifications of materials to be brought on site, e.g. topsoil, riprap, cover soil, and geo-textile.
  - b. description of construction methods
  - c. rip-rap sizing and durability basis
  - d. for the purpose of expediting the actions, an exact revegetation plan can be delayed until results are obtained from vegetative test plots. Test plots for vegetative cover shall be established to determine vegetative types and planting requirements which will assure long-term cover of the regraded pile. The design shall describe the revegetation testing which Respondents plan to conduct. Results from the test plots shall be reported to EPA in a Revegetation Memorandum.
  - e. any assumptions made by Respondents in developing design parameters shall be clearly stated and supported by sound engineering practice.

- C. A Removal Action Schedule that describes each phase of the removal action;
- D. Detailed description of site preparation activities, including establishment of security and control, definition of clearing and grubbing limits, establishment of work and support areas, and definition of decontamination areas;
- E. Description of construction quality control process necessary to successfully construct the design including grade control method, geotechnical sampling during construction,
- F. Dewatering contingency plans and fluids management procedures;
- G. Run-on and Run-off controls during construction, including location, frequency, and methods for collecting water samples which will demonstrate compliance with NPDES or other water quality standards;
- H. Spill prevention and management;
- I. Detailed description of on-site soil storage and waste processing methods;
- J. Design of an air monitoring program to be used during site material handling activities, and description of the methods to be used to control fugitive dust and monitor air quality. The regrading and construction techniques must minimize the release of contaminants via airborne emissions and surface runoff. Chemical dust suppressants and/or water shall be used during site activities to minimize generation of airborne emissions. Respondents must monitor the ambient air during excavation and soil processing activities. Ambient air monitored during performance of the removal activities shall meet National Primary and Secondary Ambient Air Quality Standards and/or levels protective of human health as determined by EPA.
- K. Description of equipment decontamination procedures;
- L. Identification of the method of transportation for any contaminated materials to be removed from the site, manifesting requirements in accordance with federal and state Department of Transportation (DOT) regulations, and material quantity accounting procedures. In addition, the Respondents shall provide written notice

prior to any off-site shipment of hazardous material;

- M. A description of how the removal action will comply with ARARs and a plan for meeting permitting requirements;
  - N. A plan for maintenance and a plan to demonstrate that the revegetation has met the Standards for Success as describe in 30 CFR § 816.116 or an EPA approved equivalent measure and that the long-term stability of the pile has been achieved.
- VI. **SAMPLING AND ANALYSIS PLAN (SAP).** The Respondents shall address any analyses required to comply with ARARs (e.g. NPDES parameters) in a-SAP to be submitted to EPA for review and approval at the same time as the Design Analysis and Removal Action Work Plan.
- VII. **SITE HEALTH AND SAFETY PLAN (SHSP).** The Respondents are responsible for developing and implementing a health and safety program and in compliance with OSHA regulations and protocols. The SHSP shall cover both design data collection and construction activities. The SSHP must be complete prior to intrusive field investigations. The EPA will review the plan to assure that all necessary elements are included, but will not provide formal approval.
- VIII. The Respondents shall execute the Removal Action in accordance with the EPA-approved WP. As specified in Section 104(a)(1) of CERCLA, as amended by SARA, EPA will provide oversight of the Respondents' activities throughout the Removal Action. Respondents shall support EPA's initiation and conduct of activities related to the implementation of oversight activities.
- IX. Respondents shall prepare as-built drawings of final constructed configurations and submit for EPA review a Construction Completion Report which describes the activities taken and quality control and monitoring results during construction.
- X. Respondents shall monitor and perform corrective actions until the Standard for Success for revegetation, as defined in the EPA-approved WP, has been met and erosional stability has been demonstrated.
- XI. Respondents shall submit for EPA review and approval a Final Removal Action Report after the activities described in Section X herein have been accomplished. The Final Removal Action Report shall include a description of measures taken at the site since construction completion, data supporting that the Standards for Success have been met; empirical

data, observations, and calculations which support the conclusion of long-term erosional stability of the pile; and recommendations on monitoring, operations, and maintenance (O&M) requirements.

XII. At the same time as submittal of the Final Removal Action report, Respondents shall submit for EPA review and approval a Post-Removal Site Control Plan. This plan shall describe the activities that Respondents will perform in order to maintain the long-term effectiveness and protectiveness of the removal action and assure continued long-term erosional stability. Following EPA approval, Respondents shall implement the Post-Removal Site Control Plan. The Respondents shall submit to EPA O&M reports every 5 years which describe the O&M activities that have taken place in the reporting period and recommendations on future activities.

#### XIII. Community Relations

EPA will prepare a community relations plan (CRP) in accordance with EPA guidance and the NCP. Respondents shall provide information and support EPA's community relations programs. Respondents may participate in aspects of the community relations program at EPA's discretion and oversight.

#### XIV. Monthly Progress Report

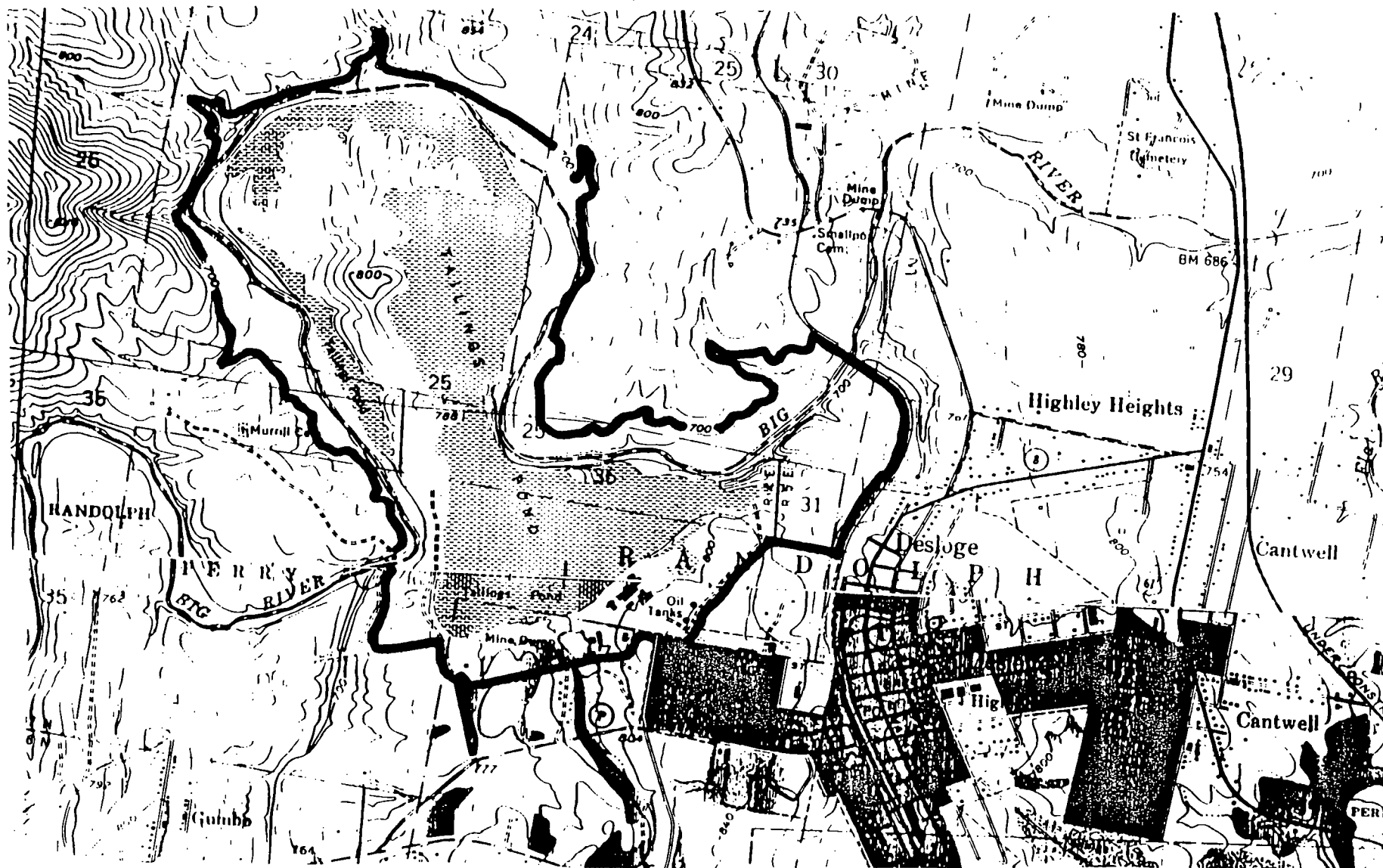
Throughout the course of the removal action until submittal of the Construction Completion Report, Respondents shall submit to EPA monthly progress reports in accordance with Section XV of the Consent Order.



## XV. SCHEDULE

Respondents shall complete the tasks identified herein in accordance with the following schedule:

<u>ITEM.</u>	<u>.Due</u>
Start of Early Actions.	10 days after effective date of AOC
Design Data Collection Memorandum	30 days after effective date of AOC
SSHP.	30 days prior to any intrusive field activities
Completion of Design Data Collection	45 days after EPA approval of Design Data Collection Memorandum
Design Analysis and Removal Action Work Plan (WP) and SAP	45 days after completion of Design Data Collection
Removal Action.	Completed in accordance with EPA-approved Removal Action Schedule included in the WP
Construction Completion Report.	30 days after completion of Removal Action
Final Removal Action Report	After demonstration that Standards for Success have been met
O&M Reports	Every 5 years starting 5 years after EPA approval of the Final Removal Action Report



Site Boundaries  
Big River Mine Tailings  
Desloge, MO



**FLUOR DANIEL**

APPENDIX C

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June 13, 1994  
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**Interim Corrective Measures for Areas 1 and 2  
at the Big River Mine Tailings Site - Desloge, Missouri**

**I. Purpose**

The United States Environmental Protection Agency (EPA), Region VII, issued a Draft Administrative Order of Consent (AOC) for Removal Actions at the Big River Mine Tailings Site - Desloge, Missouri (Site) dated May 5, 1994. Included in the AOC is the Removal Action Statement of Work (SOW) describing the requirements for design and implementation of the removal action as set forth in the Removal Action Decision Document (RADD) signed by the Regional Administrator of EPA Region VII in March 1994.

Recent storm events in the Desloge area have resulted in the erosion of materials from the areas labelled Location 1, 2, and 3 in the attached drawings. Corrective measures for these areas are planned as part of the work detailed in the SOW. In order to properly design and implement remedies for Areas 1, 2, and 3, it is necessary to obtain data as outlined in the Design Data Collection Memorandum for the Big River Site. In the interim, it is the intent of EPA and Doe Run to provide temporary measures to minimize the potential for further erosion until such time that more permanent remedies can be implemented.

**II. Current Site Conditions**

Recent inspections of the Site indicate that two mechanisms are primarily responsible for erosion of materials from the areas of concern; (1) overtopping of the banks above the area of concern by storm waters; and, (2) scouring of the bank by the Big River during storm events.

Overtopping of the banks occurs when water from storm events pond behind the existing berm along the western and northern perimeter of the site. When this occurs, the fines are rapidly mobilized with subsequent localized failures of materials currently residing at natural angles of repose.

Scouring of the banks removes materials which form the "toe" or base of these slopes which reside at elevations ranging from 10 to 50 feet above the bank of the Big River. Failure results from sloughing as materials from the toe of the slopes are removed.



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### III. Slope Protection

Failure as a result of overtopping has been minimized by the Respondents through field directed grading improvements. The berm above the areas of concern have been raised 1 to 2 feet by placement of chat (coarse fraction material). Ponding of storm water has been minimized or eliminated through the addition of a drainage ditch which serves to channel storm waters to existing drainage structures. Other ongoing improvements include removal of "snow-fencing" (deposition of fines along fencing resulted in barriers to controlled drainage of storm water) and maintenance of existing decant towers and other drainage structures.

Protection of the banks against scouring requires the placement of erosion resistant materials which will allow free movement of water between the bank\river interface without mobilization of fines. The Respondents propose to accomplish this through the placement of a mat constructed of discarded tires. As illustrated in the attached diagram, the tires would be chained (or cabled) together to form mats which could be readily transported and placed by equipment available at the landfill. Prior to placement of the mats, the area to be protected would be covered with a geotextile fabric which would allow movement of water into and out of the bank without mobilization of fines. As the mats are placed into position, they will be anchored to the ground through the placement of retention devices such as pipe (or rock bolts, if available) driven into the ground. As mats are placed, the annular space in the tires, and space between tires, will be filled with coarse rock or gravel.

It is suggested that trials utilizing different materials for filling the tire space be employed. For instance, soils suitable for plant propagation would be used in one section. Suitable seed materials would be introduced to determine if plant growth can be established and it's subsequent effectiveness in erosion control during flood stages. If proved successful, it may be feasible to utilize concrete rings, or other permanent material, for mat construction with soil\plant fill.

### IV. Design and Construction

As can be seen from the attached diagram, the concept is quite simple and requires no design beyond this document. All activities related to design and placement can be field directed by personnel currently within the employ of the Respondents. As built designs, and results of field activities, will be documented by field personnel to provide a record of results for evaluation of effectiveness to be utilized during design of the removal action.

Construction requires labor, materials, and equipment which is readily available in the immediate area. Conversations with the Respondents have indicated that a source of discarded tires is available on short notice. Materials to fasten the tires together and anchor to the ground are stock items which can be procured from local vendors. An



## **FLUOR DANIEL**

The Doe Run Resources Corporation

June 13, 1994

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abundance of suitable fill is available in the local area as is a suitable pool of labor. Placement of the mats can be accomplished through the use of the dragline at the landfill or small crane which can be rented from vendors in the metropolitan St. Louis area. Quick "trial and error" studies in the field will determine the optimum mat size for ease of handling and placement. Mats can be assembled at the area of concern to eliminate transportation problems from the point of assembly. Tools driven by compressed air, supplied by a portable compressor, will be utilized to fasten tires and drive anchoring devices into the ground. Placement of rock (or soil) can be accomplished with the dragline or by chutes which will be manually positioned. Use of this construction methodology will provide several positive benefits. It is inexpensive, eliminates the needs to disturb materials in the area of concern, and eliminates the potential of safety hazards resulting from equipment approaching the edge of loose materials.

### **V. Long Term Considerations**

The proposed erosion protection plan will be constructed from materials which will certainly last for the time interval between placement and the implementation of the removal actions addressed in the RADD. In the event that the need arises to remove the mats to implement the removal action, removal can be easily and quickly accomplished through use of equipment likely to be present on-site or in the immediate area.



**RECEIVED**

JUN 17 1994

SPFD BRANCH  
REGION VII

**FLUOR DANIEL**

Fluor Daniel Environmental Services, Inc.  
3333 Michelson Drive, Irvine, CA 92730  
(714) 975-6000

June 16, 1994

The Doe Run Resources Corporation  
P.O. Box 500  
Viburnum, Missouri 65566

Attention: Mr. John Carter, P.E.  
Environmental Manager

Subject: Additional Details for Desloge Erosion Control

Dear Mr. Carter:

In response to our telephonic conference of this morning, I am providing the following information to help clarify the proposed plan for erosion control at Desloge:

1) Additional detail on the anchoring system.

The anchoring system is intended to provide resistance to movement in two directions; (1) laterally due to drag forces imposed by storm water flow in the Big River, and (2) downslope due to slippage along the mat/tailing interface. Since forces exerted individually, or combined, are perpendicular to the axis of the anchoring devices, the single most important consideration is to ensure that materials used will not be sheared by these forces. By ensuring that steel pipe of sufficient strength (Schedule 80, or greater), or steel bar of sufficient diameter (3/4 inch), is placed at regular intervals (15 foot spacing), movement of the mat should not be a problem. Anchoring devices should be driven to a depth of six feet.

2) The use of coarse rock in the annular space in the tire mat should be sufficient protection against mobilization of rock by stormwater flow. However, in consideration of high flow velocities or of areas of steeper slopes, rock retention can be accomplished through the use of mesh. As shown in the accompanying diagram, a wire or synthetic mesh will be placed over the mat and secured by means of metals plates which are welded or bolted to the anchor devices. Mesh size will be field determined based upon the predominant fragment size of the fill material. Material composition (wire or synthetic) will be determined in the field based upon ease of handling and availability.



**FLUOR DANIEL**

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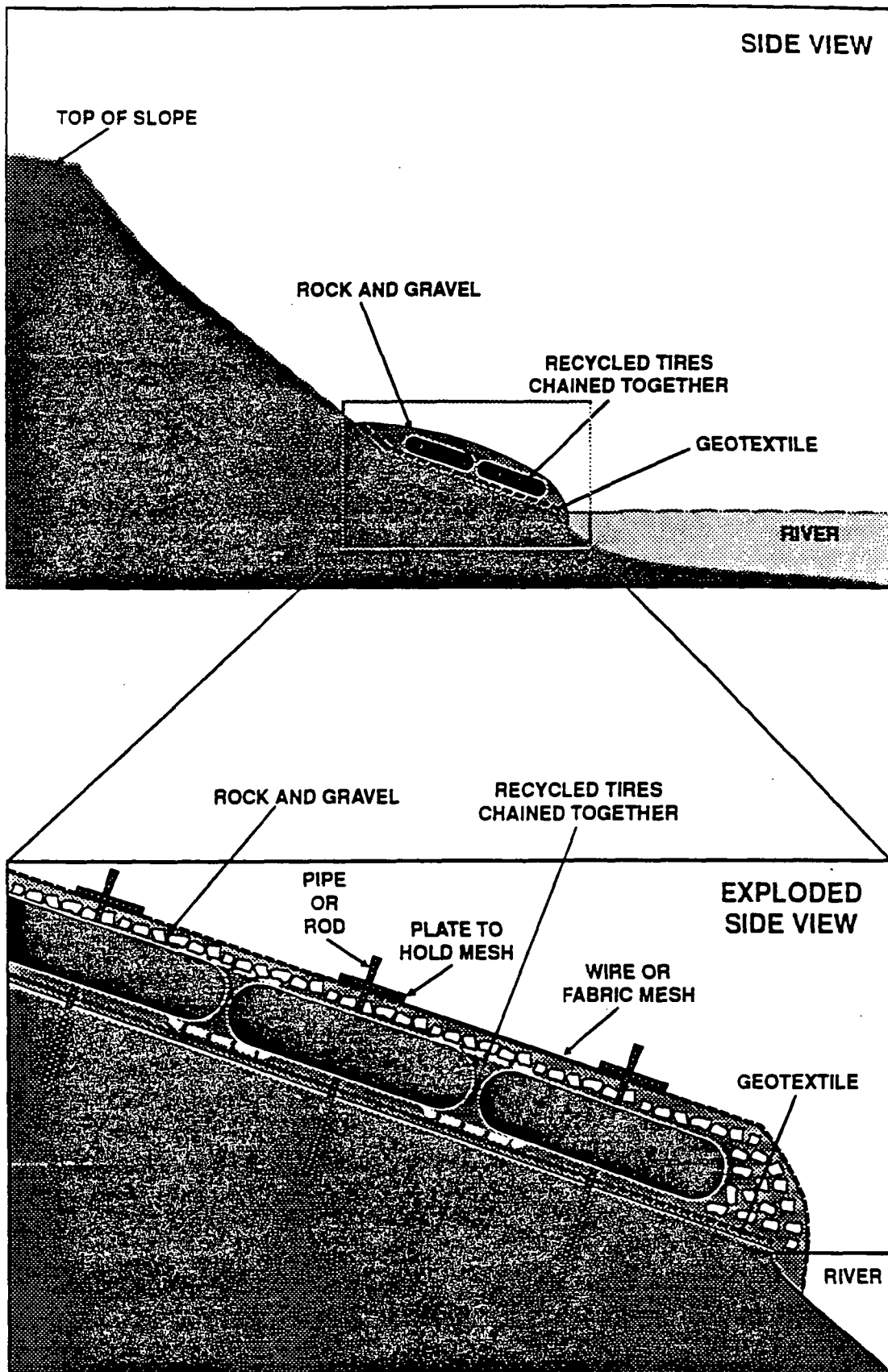
- 3) The zone between the mat and upstream slope should require no special transition. Field inspections indicate that slump areas are bordered upstream by natural ground surface with abundant growth of mature trees and foliage. It is proposed that the mat extend as far as practical into the growth area without damage to existing foliage. By overlaying the mat on the edge of the growth area, no need is required to "key" the mat into the ground surface. Such detail cannot be adequately shown on existing drawings. Existing survey information is of insufficient scale or detail to accurately depict this zone. It will be field determined during construction.
- 3) The existing decant tower in the vicinity of the area of concern is currently clogged with tailing. Details regarding subsurface features of the tower are unknown as is the extent of sand clog. Depending upon the ability to get equipment nearby, it may be possible to clear the clog by means of jetting. However, depending upon the depth of clogging or the integrity of the tower, this may prove impractical. In the unlikely event that anchor devices prove inadequate, the tower may serve as a stay. However, the need to use the tower as a cable tie is highly unlikely for fastening cables to from the mats.

As requested, I have sent copies of this correspondence via telefax and mail to Mr. Jack Generaux, P.E. at USEPA Region VII.

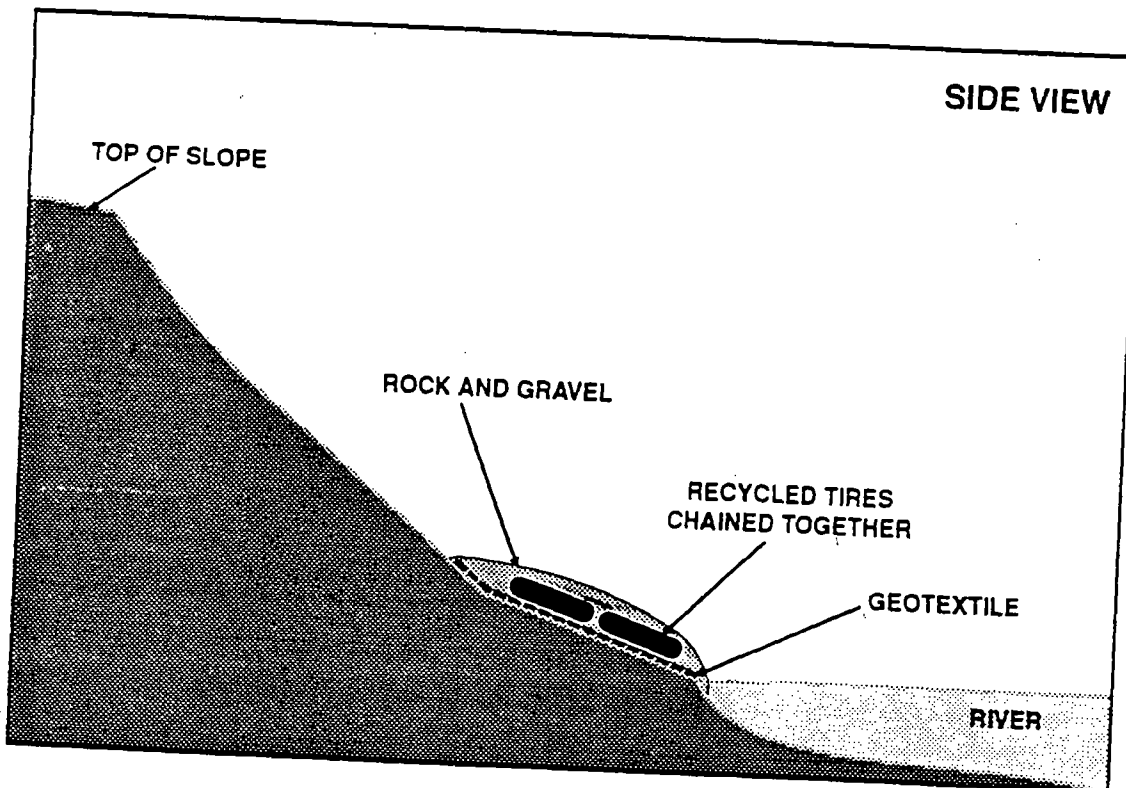
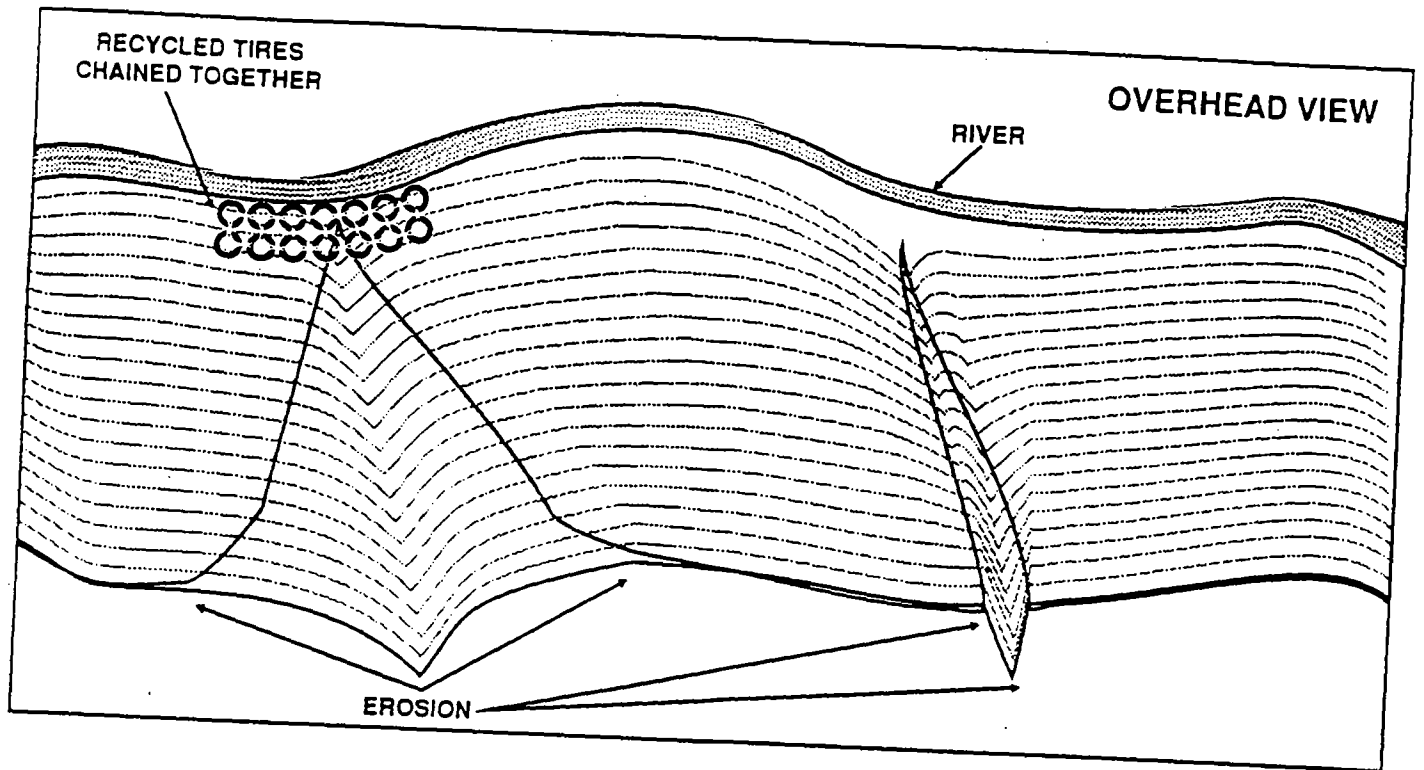
I hope this adequately addresses your inquiries. If I can provide additional information or be of service, please call me directly at (714) 975-4989.

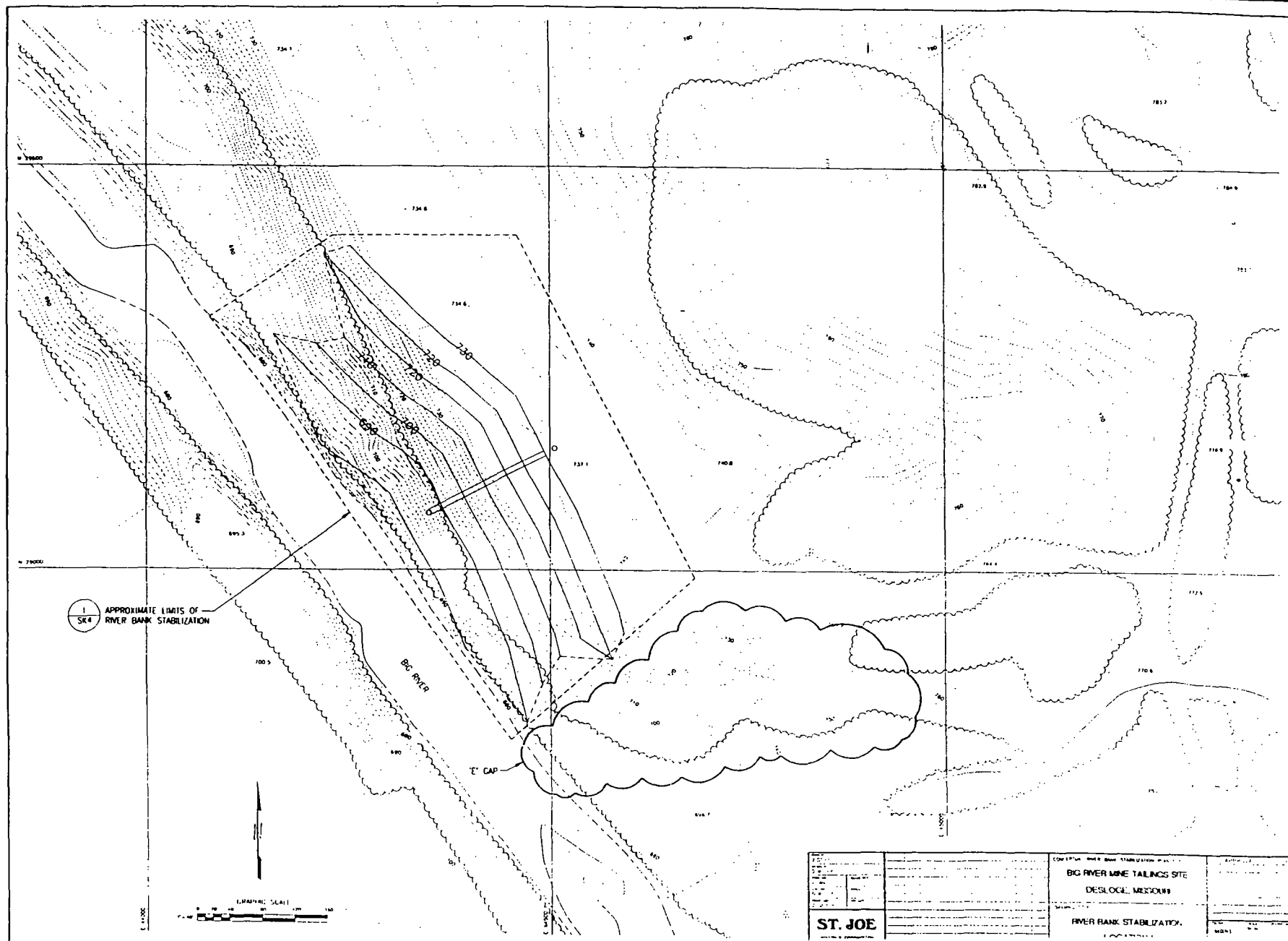
Sincerely,

Joey V. Tucker, P.E.  
Project Manager









<p>ST. JOE</p>	<p>CONFIDENTIAL</p>	<p>BIG RIVER MINE TAILINGS SITE DESLOGE, MISSOURI</p>	<p>RIVER BANK STABILIZATION</p>
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